

### REMARKS

This Amendment is submitted in response to the Office Action dated October 29, 2007. In the Office Action, the Patent Office rejected Claims 40-46, 77-86 and 121 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement; and rejected Claims 66-69 under 35 U.S.C. §112, second paragraph, as being indefinite. Further, the Patent Office rejected Claims 14, 19, 20 and 118 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,784,605 to *Bergersen* ("the '605 patent"); rejected Claims 87-90 and 119 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,876,199 to *Bergersen* ("the '199 Patent"); and rejected Claim 119 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,129,084 to *Bergersen* ("the '084 Patent").

Still further, the Patent Office rejected the following claims under 35 U.S.C. §103(a) as being unpatentable: Claims 16 and 75 over the '605 Patent in view of U.S. Patent No. 5,779,470 to *Kussick*; Claims 30 and 33-38 over the '199 Patent in view of the '605 Patent; Claims 31 and 32 over the '199 Patent in view of the '605 Patent and further in view of U.S. Patent No. 5,536,168 to *Bourke*; Claims 30 and 33-38 over the '199 Patent in view of the '605 Patent and further in view of the '084 Patent; Claims 30 and 33-38 over U.S. Patent No. 5,624,257 to *Farrell* in view of the '605 Patent; Claims 65-70 and 74 over U.S. Patent No. 3,724,075 to *Kesling* in view of the '605 Patent; Claim 70 over *Farrell* in view of the '605 Patent

and further in view of the '084 Patent; Claim 71 over *Farrell* in view of the '605 Patent and further in view of *Burke*; Claims 72 and 73 over *Farrell* in view of the '605 Patent and further in view of the '084 Patent; Claim 91 over the '199 Patent in view of the '605 Patent; Claim 120 over *Kesling* in view of the '420 Patent; Claim 123 over the '535 Patent in view of the '420 Patent; and Claim 122 over the '605 Patent in view of the '420 Patent.

By the present Amendment, Applicant amended Claims 1, 14, 17, 30, 40, 65-74, 78, 87 and 118-123. Applicant submits that the amendments to the claims overcome the objections and rejections by the Patent Office and place the application in condition for allowance. Notice to that effect is respectfully requested.

Applicant notes with appreciation that the Patent Office indicated that Claims 1-20, 22-29, 31-46, 56-111 and 113-123 are allowable. Further, the Patent Office indicated that Claims 15, 17, 18 and 76 would be allowable if re-written in independent form including the limitations of the base claim and any intervening claim. To this end, Applicant added new Claims 124-127 incorporating the elements of dependent Claims 15, 17, 18 and 76 with independent Claim 14, respectively. Accordingly, Applicant submits Claims 124-127 are in allowable form as identified by the Patent Office.

In the Office Action, the Patent Office rejected Claims 40-46, 77-86 and 121 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. More specifically,

the Patent Office alleges that the claims contain subject matter not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor had possession of the claimed invention at the time the application was filed. Further, the Patent Office states that "[t]he specification does not describe how the hinges are used if the width of the arches is different".

Applicant respectfully submits that the specification does convey to one skilled in the relevant art that the inventor had possession of the claimed invention at the time the application was filed. Since a portion of the upper base may still contact a portion of the lower base even if the width of the arches is different, one having ordinary skill in the art would be able to utilize a hinge that connect the upper base to the lower base. For example, if the upper base has an arch wider than the arch of the lower base, the hinge may connect to an inner portion of the upper base and an outer portion of the lower base. Such a structure would be readily understood by one having ordinary skill in the art. Applicant respectfully submits that the rejection of Claims 40-46, 77-86 and 121 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement should be withdrawn. Notice to that effect is requested.

With respect to the rejection of Claims 66-69 under 35 U.S.C. §112, second paragraph, Applicant respectfully submits that the rejection has been overcome by the amendments to Claims 66-69. More

specifically, in Claims 66-69, Applicant amended the claim language from "the projection" to "the rib". "The rib" has antecedent basis. Therefore, the rejection under 35 U.S.C. §112, second paragraph, has been overcome. Notice to that effect is respectfully requested.

With respect to the rejection of Claims 14, 19, 20 and 118 under 35 U.S.C. §102(b) as being anticipated by the '605 patent, Applicant submits that the rejection has been overcome in view of the foregoing amendments to the claims and the remarks that follow.

Independent Claim 14, as amended, requires a hinge connecting the upper base to the lower base wherein the hinge has an upper plate that inserts into a top aperture in the upper base wherein the hinge has a lower plate that inserts into a bottom aperture in the lower base wherein the hinge may be removed from and re-inserted into the upper aperture and the lower aperture to reversibly detach and re-attach the upper base to the lower base. Independent Claim 118, as amended, requires connecting means attached to the upper base and the lower base wherein the connecting means may be removed from and re-connected to the upper base and the lower base to reversibly detach and re-attach the upper base to the lower base.

In contrast, the '605 patent merely teaches a device that corrects open-bite with tooth receiving depressions. The device of the '605 patent also has a shield extending from the upper base and a projection for guiding the tongue.

Nowhere does the '605 patent disclose a hinge connecting the upper base to the lower base wherein the hinge may be removed from

and re-inserted into the upper aperture and the lower aperture to reversibly detach and re-attach the upper base to the lower base as required by amended Claim 14. Nowhere does the '605 patent disclose connecting means attached to the upper base and the lower base wherein the connecting means may be removed from and re-connected to the upper base and the lower base to reversibly detach and re-attach the upper base to the lower base as required by amended Claim 118.

Under 35 U.S.C. §102(b), anticipation requires that a single reference discloses each and every element of Applicant's claimed invention. *Akzo N.V. v. U.S. International Trade Commission*, 808 F.2d 1471, 1479, 1 USPQ 2d. 1241, 1245 (Fed. Cir. 1986). Moreover, anticipation is not shown even if the differences between the claims and the reference are "insubstantial", and one skilled in the art could supply the missing elements. *Structure Rubber Products Co. v. Park Rubber Co.*, 749 F.2d. 707, 716, 223 USPQ 1264, 1270 (Fed. Cir. 1984).

Since the '605 patent fails to disclose a dental appliance as defined in independent Claims 14 and 118, Applicant asserts that the rejection of Claims 14, 19, 20 and 118 under 35 U.S.C. §102(b) has been overcome and should be withdrawn.

With respect to the rejection of Claims 87-90 and 119 under 35 U.S.C. §102(b) as being anticipated by the '199 patent, Applicant submits that the rejection has been overcome in view of the foregoing amendments to the claims and the remarks that follow.

Amended independent Claims 87 and 119 require that the hinge may be removed from and re-connected to the upper base and the lower base to reversibly detach and re-attach the upper base to the lower base.

The '199 patent merely teaches an orthodontic appliance for assisting in properly positioning teeth within the mouth of an individual which has a labial-buccal flange, a lingual flange spaced from the labial-buccal flange, both of which define a generally U-shaped configuration in the occlusal view, and an isthmus interconnecting the two flanges. The appliance has no individual tooth sockets but instead utilizes pressure applied by the labial-buccal flange, the lingual flange, and relative angles and material thicknesses to properly position the teeth. The appliance is capable of fitting mouths and teeth of various sizes because it includes no individual tooth sockets. The hinge is integrally molded into the appliance.

Nowhere does the '199 patent disclose that the hinge may be removed from and re-connected to the upper base and the lower base to reversibly detach and re-attach the upper base to the lower base as required by independent Claims 87 and 119, as amended.

As noted above, anticipation requires that a single reference discloses each and every element of Applicant's claimed invention. *Akzo*, 808 F.2d at 1479. Since the '199 patent fails to disclose a dental appliance as defined in independent Claims 87 and 119, Applicant asserts that the rejection of Claims 87-90 and 119 under

35 U.S.C. §102(b) has been overcome and should be withdrawn.

With respect to the rejection of Claim 119 under 35 U.S.C. §102(b) as being anticipated by the '084 patent, Applicant submits that the rejection has been overcome in view of the foregoing amendments to the claims and the remarks that follow.

The '084 patent merely discloses an intra-oral appliance for opening the oral and pharyngeal passageway and preventing snoring and sleep apnea. The appliance has two U-shaped plates joined to form a hinge. The upper plate has a labial-buccal wall but no lingual wall. The lower plate has both a labial-buccal wall and a lingual wall. Lingual tabs are employed to help position the appliance.

Nowhere does the '084 patent disclose that the hinge may be removed from and re-connected to the upper base and the lower base to reversibly detach and re-attach the upper base to the lower base as required by independent Claim 119, as amended.

As noted above, anticipation requires that a single reference discloses each and every element of Applicant's claimed invention. *Akzo*, 808 F.2d at 1479. Since the '084 patent fails to disclose a dental appliance as defined in Claim 119, Applicant asserts that the rejection of Claim 119 under 35 U.S.C. §102(b) has been overcome and should be withdrawn.

With respect to the rejections under 35 U.S.C. §103(a), Applicant submits that the rejections have been overcome in view of the foregoing amendments and the remarks that follow.

The '420 patent merely discloses tooth receiving troughs which have a plurality of depressions to receive teeth. The dental appliance may be constructed by slitting the plastic or other resilient material appliance along a center parting line either at the time of molding or afterwards. If the slit is made at the time of molding, the appliance is immediately spread open, and the molded plastic is allowed to cool and thermoset in an opened position. The dental appliance may be constructed by a cold slit along the same center parting line after the appliance has been molded and has cooled and held open while the plastic at the "hinge" portion is heated and allowed to thermoset in the opened position.

*Bourke* merely teaches a mouth worn apparatus having a main body having upper compartments and lower compartments which are generally U-shaped so as to conform generally to teeth of a patient, the upper compartment opening at least upwardly and the lower compartment opening at least downwardly so as to generally receive a patient's upper teeth and lower teeth. A plurality of flexible protrusion members extend from at least part of the interior surface of at least one of the compartments so as to contact at least some of the teeth of the patient when the device is worn.

*Kussick* merely teaches a device having a teeth-fitting segment of a first occlusal trough, a second occlusal trough and a front portion. The device also has a downward projection for directing the user's tongue toward the anterior.

*Kesling* merely teaches an orthodontic appliance for use in the



final stages of orthodontic treatment to ideally position and retain teeth, which comprises an arch-shaped body of resilient material having upper and lower archways for receiving the upper and lower arches of a patient. The appliance is premolded in several sizes, and the seating springs are custom fitted to the patient's arches in a short period of time by the orthodontist. The appliance has a wire which clasps teeth to hold the appliance in the mouth. The wire does not extend from the first end of the appliance all the way to the second end.

*Farrell* merely teaches an appliance for repositioning the temporomandibular joint. The appliance has a base portion and flanges which form upper and lower U-shaped channels for receiving the teeth of the upper and lower jaws. The inner flange has a central tab and a pair of slots on opposite sides of the tab to allow for lateral adjustment of the appliance. The appliance has ribs on the outer flange to engage the teeth of the user.

None of the '605 patent, *Kussick*, the '199 Patent, *Bourke*, the '084 Patent, *Farrell* or *Kesling*, taken singly or in combination, teach or suggest the elements or steps of independent Claims 14, 30, 40, 65, 78, 87 and 120-123. Namely, with respect to amended independent Claim 14, none of the references, taken singly or in combination, teach that the hinge may be removed from and re-inserted into the upper aperture and the lower aperture to reversibly detach and re-attach the upper base to the lower base.

With respect to amended independent Claim 30, none of the

references, taken singly or in combination, teach or suggest that the hinge may be removed from and re-inserted into the upper slot and the lower slot to reversibly detach and re-attach the upper base to the lower base.

With respect to amended independent Claims 40, 78, 87 and 123, none of the references, taken singly or in combination, teach or suggest that the hinge may be removed from and re-connected to the upper base and the lower base to reversibly detach and re-attach the upper base to the lower base.

With respect to amended independent Claim 65, none of the references, taken singly or in combination, teach or suggest a step of closing the space between the teeth wherein the end portion of the rib contacts the teeth and closes the space between the teeth.

With respect to amended independent Claim 120, none of the references, taken singly or in combination, teach or suggest the step of rotating the teeth of the user wherein the projection rotates the teeth to correct crowding of the teeth.

With respect to amended independent Claim 121, none of the references, taken singly or in combination, teach or suggest that the connecting means may be removed from and re-connected to the upper base and the lower base to reversibly detach and re-attach the upper base to the lower base.

With respect to amended independent Claim 122, none of the references, taken singly or in combination, teach or suggest that the projection corrects thumb sucking of the patient.

For the 35 U.S.C. §103(a) rejections, the question is whether the totality of the art would collectively suggest the claimed invention to one of ordinary skill in the art. *In re Simon*, 461 F. 2d 1387, 174 USPQ 114 (CCPA 1972). That elements, even distinguishing elements, are disclosed in the prior art is insufficient. It is common to find elements somewhere in the art. The test is whether the invention as a whole, in light of the teachings of the references in their entireties, would have been obvious to one of ordinary skill in the art at the time the invention was made. *Connell v. Sears, Roebuck & Co.*, 722 F. 2d 1542, 220 USPQ 193 (Fed. Cir. 1983).

With the analysis of the deficiencies of '605 patent, *Kussick*, the '199 Patent, *Bourke*, the '084 Patent, *Farrell* and *Kesling* in mind, as enumerated above, no reason or suggestion in the evidence of record exists why one of ordinary skill in the art would have been led to combine the '605 patent, *Kussick*, the '199 Patent, *Bourke*, the '084 Patent, *Farrell* and/or *Kesling* to produce the claimed invention for better treating malocclusions. The mere disclosure of distinguishing elements in the art is insufficient. *Connell*, 722 F. 2d 1542. Furthermore, when combining references, a teaching or suggestion must exist to make the combination made by Applicant. *Interconnect Planning Corp. v. Feil*, 774 F. 2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1988). With the analysis of the deficiencies of the '605 patent, *Kussick*, the '199 Patent, *Bourke*,

the '084 Patent, *Farrell* and *Kesling* in mind, as enumerated above, no reason or suggestion in the evidence of record exists why one of ordinary skill in the art would have been led to combine the references to produce the claimed invention. Therefore, *prima facie* obviousness has not been established as required under 35 U.S.C. §103(a).

Moreover, the combination of the references still does not teach or suggest the novel elements and steps required by the amended independent claims. Claims 16, 75 and 77 depend from independent Claim 14; Claims 31-39 depend from independent Claim 30; Claims 41-46 depend from independent Claim 40; Claims 66-74 depend from independent Claim 65; and Claims 79-86 and 91 depend from independent Claim 78. Therefore, the rejection of the following claims under 35 U.S.C. §103(a) as being unpatentable should be withdrawn: Claims 16 and 75 over the '605 Patent in view of U.S. Patent No. 5,779,470 to *Kussick*; Claims 30 and 33-38 over the '199 Patent in view of the '605 Patent; Claims 31 and 32 over the '199 Patent in view of the '605 Patent and further in view of U.S. Patent No. 5,536,168 to *Bourke*; Claims 30 and 33-38 over the '199 Patent in view of the '605 Patent and further in view of the '084 Patent; Claims 30 and 33-38 over U.S. Patent No. 5,624,257 to *Farrell* in view of the '605 Patent; Claims 65-70 and 74 over U.S. Patent No. 3,724,075 to *Kesling* in view of the '605 Patent; Claim 70 over *Farrell* in view of the '605 Patent and further in view of the '084

Patent; Claim 71 over *Farrell* in view of the '605 Patent and further in view of *Burke*; Claims 72 and 73 over *Farrell* in view of the '605 Patent and further in view of the '084 Patent; Claim 91 over the '199 Patent in view of the '605 Patent; Claim 120 over *Kesling* in view of the '420 Patent; Claim 123 over the '535 Patent in view of the '420 Patent; and Claim 122 over the '605 Patent in view of the '420 Patent.

In view of the foregoing remarks and amendments, Applicant respectfully submits that all of the claims in the application are in allowable form and that the application is in condition for allowance. If, however, any outstanding issues remain, Applicant urges the Patent Office to telephone Applicant's attorney so that the same may be resolved and the application expedited to issue. Applicant requests the Patent Office to indicate all claims as allowable and to pass the application to issue.

Respectfully submitted,



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**CERTIFICATE OF MAILING**

I hereby certify that this **Amendment, Amendment Transmittal (in duplicate)** and **Return Receipt Postcard** are being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on January 28, 2008.

A handwritten signature in black ink, appearing to read "Brian M. Mattson", written over a horizontal line.

Brian M. Mattson (Reg. No. 35,018)